

CLAIMS:

1. A data providing system comprising:

a first device for communicating individually with a plurality of terminal devices; and

a second device for broadcasting data to all of the terminal devices which are in communicable state with the first device,

wherein part of reproducible data to be provided is transmitted to the all of the terminal devices which are in a communicable state from one of the first and second device, and the rest of the data to be provided is transmitted to the all of the terminal devices in communicable state from the other of the first device and the second device, thereby enabling the provided data reproduced in the all of the terminal devices in real time.

2. A data providing system comprising:

a first device for communicating individually with a plurality of terminal devices each connected to a network; and

a second device for broadcasting data to all of the terminal devices which are in communicable state with the first device at once,

wherein the first device transmits individual data prepared in accordance with a request from one of the terminal devices to the one of the terminal devices via the network, and

the second device broadcasts data indicating an operation state of the network, which changes occasionally in accordance with a load on the first device, to all of the terminal devices.

3. A data providing system comprising:

a plurality of first devices for communicating individually with a plurality of terminal devices each connected to a network; and

a second device for broadcasting data to all of the terminal devices which are in communicable state with the first devices,

wherein each of said plurality of first devices transmits individual data prepared in accordance with a request from one of the terminal devices to said one of the terminal devices via the network, and

the second device broadcasts data indicating an operation state of the network, which changes occasionally in accordance with a load on a respective one of the first devices, to all of the terminal devices in real time, and transmits as a proxy data to be sent by the first device when some or all of said plurality of first devices have a load which exceeds a predetermined value.

4. A data providing system according to claim 3, wherein at least one of the first devices further comprises: a first data generator for generating load data indicating a load status of the subject device which changes occasionally in accordance with an access status sent from said plurality of terminal devices; and a unit for transmitting the generated load data to the second device in real time; and

the second device includes a second data generator for generating the operation status data on the basis of the load data received from the at least one of the first devices.

5. A data providing system comprising:

a first device for communicating individually with a plurality of terminal devices each connected to a network; and

a second device for broadcasting data to all of the terminal devices which are in communicable state with the first devices,

wherein said plurality of terminal devices and the first device are of types which enable to form a common logical space,

the first device detects a request of revision of the logical space from at least one of the terminal devices, and changes the logical space on the basis of the detected status, and

the second device broadcasts the status of the logical space after revision in the first device to said plurality of terminal devices.

6. A data providing system comprising:

a plurality of first devices for communicating individually with a plurality of terminal devices each connected to a network; and

a second device for broadcasting data of the same contents to said plurality of terminal devices,

wherein each of said plurality of first devices has a logical space formed therein to be accessible by said plurality of terminal devices, these logical spaces being formed associated with each other, and

the second device, when the status of the logical space changes in one of the first devices, varies the status of the logical space of other device on the basis of the variation status, and provides the statuses of all the logical spaces after the variation to said plurality of terminal devices in real time.

7. A data providing system according to claim 6, wherein at least one of said plurality of terminal devices further comprises: a status changer for forming a logical space having the same structure as the logical space formed in the first device to be accessed by the subject terminal device, within the subject terminal

device, and for changing the status of the formed logical space, and

a data transmitter for transmitting, when the status of the logical space within the subject terminal device has changed, data indicating the variation status to the first device to be accessed by the subject terminal device in real time.

8. A data providing method carried out via a network, comprising the steps of:

distributing part of data to be provided to a plurality of terminal devices connected a network, to a first device communicable individually to each of said plurality of terminal devices;

distributing the rest of the data to be provided, to a second device which broadcasts data towards said plurality of terminal devices; and

transmitting the data distributed to the first device and the second device at the same time, thereby enabling each of said plurality of terminal devices to reproduce the data to be provided in real time.

9. A data providing method carried out via a network, comprising the steps of:

distributing individual data to a first device communicable individually to a plurality of terminal devices connected a network, the data being to be provided to one of a plurality of terminal devices, which has made a request;

distributing data indicating a load status of the first device or the network, to a second device which broadcasts data towards said plurality of terminal devices; and

transmitting the data distributed to the second device prior to transmission of the data distributed to the first device, thereby enabling to present the load status of the first device or the network to a terminal device which is accessing to the first device.

10. A data providing method carried out via a network, comprising the steps of:

forming a logical space common to a plurality of terminal devices connected a network, and a first device communicable individually to each of said plurality of terminal devices; and

broadcasting, when a status of the logical space has changed in accordance with an accessing status from one of said plurality of terminal devices, a status of the changed logical space, to said plurality of terminal devices in real time.

11. A data providing apparatus comprising:

a first communication unit for transmitting part of reproducible data to

be provided to a first device communicable individually with a plurality of terminal devices, so as to make the first device to transmit the data to each of said plurality of terminal devices; and

a second communication unit for transmitting the rest of the data to be provided, to all of the terminal devices which are in communicable state with the first device at once,

wherein said all of the terminal devices are rendered to construct an environment in which the all of the terminal devices enable to reproduce the data to be provided in real time in cooperation with the first device.

12. A data providing apparatus comprising:

a first communication unit for transmitting part of reproducible data to be provided to a first device communicable individually with a plurality of terminal devices connected to a network, so as to make the first device to transmit the data to each of said plurality of terminal devices;

a load detector for detecting a load on the first device when individually transmitting the data to be provided to one of said plurality of terminal devices via the network;

a generator for generating operation status data indicating an operation status of the network, which changes occasionally in accordance with the detected load of the first device; and

a second communication unit for broadcasting the generated operation status data, to all of the terminal devices which are in communicable state with the first device,

wherein said all of said terminal devices are rendered to construct an environment in which said all of said terminal devices enable to reproduce the data to be provided in real time in cooperation with the first device.

13. A data providing apparatus according to claim 12, further comprising a proxy transmission unit for transmitting, as a proxy, individual data to be transmitted by the first device when the load detected by the load detector exceeds a predetermined value.

14. A data providing apparatus comprising:

a first communication unit for communicating with a first device communicable individually with a plurality of terminal devices connected to a network; and

a second communication unit for broadcasting data to all of the terminal devices which are in communicable state with the first device,

wherein a common logical space can be created in said plurality of terminal devices and the first device,

the first device detects a request of revision of the logical space from at least one of the terminal devices, and changes the logical space on the basis of the detected status, and

the second device handles the status of the logical space after revision in the first device, acquired through the first communication unit, as the data to be broadcasted.

15. A data providing apparatus comprising:

a first communication unit for communicating with a plurality of first devices communicable individually with a plurality of terminal devices connected to a network; and

a second communication unit for broadcasting data to all of terminal devices which are in communicable state with said plurality of first devices,

wherein each of said plurality of first devices forms a logical space accessible by said plurality of terminal devices in association with the other of said plurality of first devices, and

the second communication unit acquires the changed status via the first communication unit when the status of the logical space has changed in one of said plurality of first devices, and handles the status of other logical space which has changed in accordance with the changed status, as the data to be broadcasted.

16. A recording medium recorded with a computer program for rendering a computer to function as a data providing device, said device comprising:

a first communication unit for transmitting part of reproducible data to be provided to a first device communicable individually with a plurality of terminal devices, so as to make the first device to transmit the data to each of said plurality of terminal devices; and

a second communication unit for transmitting the rest of the data to be provided, to all of the terminal devices which are in communicable state with the first device at once,

wherein the data providing device makes all of said plurality of terminal devices to construct an environment in which the all of said plurality of terminal devices enable to reproduce the data to be provided in real time in cooperation with the first device.

17. A recording medium recorded with a computer program for rendering a computer to function as a data providing device, said device comprising:

a first communication unit for transmitting part of reproducible data to be provided to a first device communicable individually with a plurality of terminal devices connected to a network, so as to make the first device to transmit the data to each of said plurality of terminal devices;

a load detection unit for detecting a load on the first device when individually transmitting the data to be provided to one of said plurality of terminal devices via the network;

a generator for generating operation status data indicating an operation status of the network, which changes occasionally in accordance with the detected load of the first device; and

a second communication unit for broadcasting the generated operation status data, to all of the terminal devices which are in communicable state with the first device,

wherein the data providing device makes each of said plurality of terminal devices to construct an environment in which said plurality of terminal devices can reproduce the data to be provided in real time in cooperation with the first device.

18. A recording medium recorded with a computer program for rendering a computer to serve as data providing device, said device comprising:

a first communication unit for communicating with a first device communicable individually with a plurality of terminal devices connected to a network; and

a second communication unit for broadcasting data to all of terminal devices which are in communicable state with the first device,

wherein a common logical space can be created in said plurality of terminal devices and the first device,

the first device detects a request of revision of the logical space from at least one of the terminal devices, and changes the logical space on the basis of the detected status, and

the second device handles the status of the logical space after revision in the first device, acquired through the first communication unit, as the data to be broadcasted.

19. A recording medium recorded with a computer program for rendering a computer to serve as data providing device, said device comprising:

a first communication unit for communicating with a plurality of first devices communicable individually with a plurality of terminal devices connected to a network; and

a second communication unit for broadcasting data to all of terminal devices which are in communicable state with said plurality of first devices,

wherein each of said plurality of first devices creates logical spaces accessible by said plurality of terminal devices in association with the other of said plurality of first devices, and

the second communication unit acquires the changed status via the first communication unit when the status of the logical space has changed in one of said plurality of first devices, and handles the status of other logical space which has changed in accordance with the changed status, as the data to be broadcasted.

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